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10/008,553	11/09/2001	Robert O. Aberg	MWS-009	6757

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EXAMINER	
BRIER, JEFFERY A	

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/008,553	ABERG ET AL.	
	Examiner	Art Unit	
	Jeffery A. Brier	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *9 and 10* is/are allowed.

6)☒ Claim(s) *1-8, 11-16, 18, 20, 21, and 23- 47* is/are rejected.

7)☒ Claim(s) *17,19 and 22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed on 3/24/2005 has been entered. The amendment to claim 14 overcomes the objection to that claim set forth in the rejection mailed on 11/24/2004. The amendments to claims overcomes the 35 USC 112 second paragraph rejections of claims 1, 5, 9, 12, 15, 20, 23, 24, 25, 2930, 34, 38, and 39 set forth in the rejection mailed on 11/24/2004 at pages 5-8 with the exception of the rejection of claim 5 which was rejected as: In the last line "the corresponding section" lacks antecedent basis in the claim.

Response to Arguments

2. Applicant's arguments filed 3/24/2005 concerning Shatz have been fully considered but they are not persuasive. Shatz at column 2 lines 3-7 and 31-34, column 6 lines 43-45 and 55-58, column 6 line 67 to column 7 line 2, column 7 lines 8-17 and 49-51, column 8 lines 8-18 and 33-48, column 9 lines 6-9, 35-37, and 39-47, column 10 lines 21-27 and 44-47, and column 11 lines 56-58 teaches to the skilled artisan the broadly claimed determining differences between electronic diagrams and enabling a user to select one or more of said differences (attributes, systems, resources, etc) which are then programmatically merging the selected differences from one diagram into another diagram at a corresponding location.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5:

The step of programmatically merging and the step of inserting the copied seem to be performing the same function. It seems the step of programmatically merging should be deleted from the claim.

In the last line "the corresponding section" lacks antecedent basis in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 13-16, 18, 20, 21, 23-28, 32-37, and 41-47 are rejected under 35 U.S.C. 102(b) as being anticipated by Schatz et al., U.S. Patent No. 5,845,270.

Schatz describes comparing at least two electronic diagrams, column 1 lines 41-45, and merging at least two electronic diagrams, column 10 line 65 to column 11 line 21, and Schatz also describes comparing at least two state diagrams, column 1 lines 36-39, and merging at least two state diagrams, column 10 line 65 to column 11 line 21.

Shatz at column 2 lines 3-7 and 31-34, column 6 lines 43-45 and 55-58, column 6 line 67 to column 7 line 2, column 7 lines 8-17 and 49-51, column 8 lines 8-18 and 33-48, column 9 lines 6-9, 35-37, and 39-47, column 10 lines 21-27 and 44-47, and column 11 lines 56-58 teaches to the skilled artisan the broadly claimed determining differences between electronic diagrams and enabling a user to select one or more of said differences (attributes, systems, resources, etc) which are then programmatically merging the selected differences from one diagram into another diagram at a corresponding location.

A detailed analysis of the claims follows.

Claim 1:

Schatz teaches in an electronic device (*see figure 6, computer system 600 is an electronic device since it uses an magnetic disk, column 5 line 38, and since it uses a cathode ray tube for a display, column 5 line 42*) interfaced with a display surface (*column 5 lines 40-43 discusses various displays 621 connected to computer 600*), a method, comprising the steps of:

providing two electronic diagrams (*Schatz discusses circuit diagrams used in electrical engineering as being the types of diagrams Schatz compares and merges at column 1 lines 41-45*), said electronic diagrams having blocks (*electrical components are often grouped as blocks in electrical circuit diagrams, such as used in depicting an integrated circuit, microprocessor, memory, etc.*) representing components of a system;

determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams (*in the merging of diagrams Schatz determines redundant diagram features, see column 11 lines 49-52 and 64-67*);

determining differences between said electronic diagrams (*in the merging of diagrams Schatz determines differences between diagram features when at least the redundant diagram features are determined, see column 11 lines 49-52 and 64-67*),

enabling a user to select one or more of said differences (*At column 10 lines 44-47 the Shatz teaches allowing the user to choose which resources to display which means the user selects selected resources.*); and

programmatically merging said selected one or more determined differences (*column 11 line 38-67 describes merging at least two diagrams which have been selected by the user by the user's input of*

attributes and which have been selected by the user's selection of resources.) by copying said selected one or more differences from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram (*Schatz merges one diagram into a second diagram when at column 11 line, column 9 lines 54-60, s 12-15 where Schatz wrote "It should be understood that a merged network diagram may be displayed as an extension of either the of the original network diagrams or a new network diagram" and at column 11 lines 49-52 and 64-67 Schatz describes removing duplicate trees, this merges the differences from one into the other diagram*).

Claim 2:

Schatz teaches the method of claim 1 wherein said programmatically merging differences comprises the further step of:

replacing data elements of said other electronic diagram with copied differences from said selected one of said two electronic diagrams (*when the merged diagram is an extension of one of the diagrams then it receives diagram components and when the difference is additional attributes for a corresponding diagram component exists in a second diagram then the second diagram's component replaces the first diagram's component*).

Claim 3:

Schatz teaches the method of claim 2, comprising the further step of:

cascading hierarchically the replacement of data elements wherein said data elements being replaced are arranged in a tree structure (*Schatz discusses at column 11 lines 28-35 and 42-47 replacing the tree structure of one diagram with the tree structure of another diagram during the merge process*), said tree structure having parent data elements with child data elements attached thereto, said child data elements being replaced when said parent data element is replaced (*when a tree structure is replaced the child data associated with parent data is replaced*).

Claim 4:

Schatz discusses at column 4 lines 28-30 trees that are overlapping, thus, the parent nodes of two diagrams may be the same but the child nodes may have differences causing the child node in the second diagram to replace the child node in the first diagram, thus Schatz teaches the method of claim 3 wherein only said child data elements are replaced.

Claim 13:

The specific diagrams discussed in the Schatz's description of the related art are the diagrams that Schatz merges. Schatz teaches the method of claim 1, wherein said two electronic diagrams are one of

block diagrams (*Schatz teaches block diagrams at column 1 lines 40-42 since economic diagrams are block diagrams*),

state diagrams (*Schatz teaches state diagrams at column 1 lines 36-39*),

signal diagrams (*Schatz teaches signal diagrams at column 1 lines 34-37 and 41-45 since telecommunication or data communication networks and electrical circuit represent signal flow through the network*),

flow chart diagrams (*Schatz teaches flow charts at column 1 lines 37-40 because state diagrams are flow charts*),

sequence diagrams (*Schatz teaches sequence diagrams at column 1 lines 40-43 since the flow of currency is time related thus the economic diagrams are sequence diagrams*), UML diagrams (*Unified Modeling Language diagrams is not expressly taught by Schatz but since at column 1 line 40 Schatz discusses diagrams that model computer programs then Schatz inherently contemplates comparing and merging UML diagrams*),

dataflow diagrams (*Schatz teaches dataflow diagrams at column 1 lines 34-39 and 41-45 since telecommunication or data communication networks, state transition diagrams and electrical circuit represent data flow through the network*), circuit diagrams (*Schatz teaches circuit diagrams at column 1 lines 41-45*),

ladder logic diagrams (*this is covered by the electrical circuit diagrams because ladder circuits and ladder logic circuits are used in electrical engineering*) and

Kinematic element diagrams (a *kinematic element diagram is a diagram that shows kinematic flow, this is inherent since at column 1 lines 19-25 Schatz describes general system modeling*).

Claim 14:

Schatz discusses at column 11 lines 5-8 aggregates which has multiple domains since a diagram may be an aggregate of several systems each having its own unique domain.

Claim 15:

This claim is similar to claim 1. The difference is claim 1 claimed an electronic diagram while this claim claims a state diagram. Both types of diagrams are discussed at column 1 lines 37-45. This claim is rejected for the reasons given for claim 1 and in view of the fact that state diagrams are compared and merged by Schatz.

Claim 16:

See the discussion of claim 2.

Claim 18:

This claim is similar to claim 1. The difference is this claim is claiming essentially the electronic device of claim 1 is connected to a network and having the electronic diagrams received by the electronic device over the network. Schatz teaches at column 6 lines 7-28 storing the data to be analyzed at a location different than the computer 600 and computer 600 is connected to a network LAN/WAN via network interface 603. Thus, the electronic diagrams compared and merged by Schatz are retrieved from a database via the network, stored locally, and then compared and merged. The claim limitation including "at least one semantic connection, said semantic connection associating components within the same system in said electronic diagram" is met by the attribute that semantically associates all of the diagram components to a diagram and is met by the attribute that semantically associates all of the sub system components to a particular subsystem. This type of connection in the diagram is taught by Schatz by the attributes which identifies diagram components to a diagram and by Schatz when a component's sub system is analyzed since all of the components of the sub system do not have a direct connection to each other but they are semantically associated with the same sub system. See column 1 lines 53-55 and 59-62, column 2 lines 31-34, column 3 lines 51-57, column 4 lines 11-16, and column 5 lines 6-16 for various semantic connections that associates within the same system an electronic diagram. Also column 11 lines 5-8 teaches to merge diverse diagrams each diverse diagram is formed from known resources or systems.

Claim 20:

This claim is similar to claim 1, the difference is this claim claims *In an electronic device interfaced with a display surface, a medium holding computer-executable instructions for a method* where the method is the same method claimed in claim 1. Schatz discusses at column 5 lines 29-30 and column 6 lines 14-17 storing instructions for the processes executed by the processor 602 in main memory 604. Main memory 604 is a medium holding the computer executable instructions for causing a processor to perform the comparing and merging.

Claim 21:

See claim 2.

Claim 23:

Schatz teaches the medium of claim 20 wherein said method comprises the additional steps of:

determining differences between at least one additional electronic diagram and said other electronic diagram (*in the merging of diagrams Schatz determines differences between diagram features when at least the redundant diagram features are determined, see column 11 lines 49-52 and 64-67*); and

merging said differences from at least one additional electronic diagram into said other electronic diagram (*column 11 line 38-67 describes merging at least*

two diagrams, column 11 lines 49-52 and 64-67 describes removing duplicate trees this step merges the differences from one into the other diagram, Schatz merges one diagram into a second diagram when at column 11 lines 12-15 where Schatz wrote "It should be understood that a merged network diagram may be displayed as an extension of either the of the original network diagrams or a new network diagram").

Claim 24:

This claim claims said other electronic diagram is stored in a configuration management system. The system of Schatz is considered to be a configuration management system since it configures a new system diagram.

Claim 25:

Claim 25 is amended claim 1 with a semantic limitation. For the reasons given above this additional limitation is taught by Schatz. The claim limitation including "at least one semantic connection, said semantic connection associating components within the same system in said electronic diagram" is met by Schatz for the reason given for claim 18.

Claim 26:

See the discussion of claim 2.

Claim 27:

See the discussion of claim 3.

Claim 28:

See the discussion of claim 4.

Claim 32:

See the discussion of claim 13.

Claim 33:

See the discussion of claim 14.

Claim 34:

This claim is a medium holding executable steps version of method claim 25 and is rejected for the reasons given for claim 25. Additionally Schatz teaches a computer system in figure 6 for performing the electronic diagram merging and teaches a executable instructions for performing the method stored in memory 606. The remaining limitation is taught by Schatz for the reasons given in claim 1.

Claim 35:

See the discussion of claim 26.

Claim 36:

See the discussion of claim 27.

Claim 37:

See the discussion of claim 28.

Claim 41:

See the discussion of claim 32.

Claim 42:

See the discussion of claim 33.

Claims 43-46:

Shatz teaches categorizing said differences as functional differences (*The flow between nodes, the flow between systems, the flow between nodes in a subsystem, the flow between subsystem nodes of one system to subsystem nodes of another system are examples of functions of the diagrams and during the merging process differences between the two diagrams are determined in order to form the merged diagram.)* and graphical differences; enabling the user to select (*Graphical differences are related to the display of the merged diagrams and are a function of the functional differences.*), said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user; and

enabling the user to select at least one of the functional or graphical differences (*At column 10 lines 44-47 the Shatz teaches allowing the user to choose which resources to display which means the user selects selected resources.*);

wherein the selected differences is merged into a corresponding location in the other diagram (*This is taught by merging the resource into the diagram at the appropriate location.*).

Claim 47:

This claim appears to be a very similar and incomplete version of claim 1 and it is rejected for the reasons given for claim 1.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 8, 11, 12, 29-31 and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schatz et al., U.S. Patent No. 5,845,270 in view of Hsu, U.S. Patent No. 5,974,254.

Claim 8:

Claim 8 depends upon claim 1.

Schatz does teach *updating said display surface following the performance of said merging operation, said updating showing the differences copied to said other electronic diagram* because Schatz displays the merged electronic diagram, thus, showing the differences copied into the other electronic diagram and applicant did not claim how these differences are displayed.

Schatz does not teach *highlighting the differences in said electronic diagrams for a user on a display surface of a display device, said display surface showing both of said diagrams.*

Hsu teaches *highlighting the differences in said electronic diagrams for a user on said display surface, said display surface showing both of said diagrams* at column 9 line 5 to column 10 line 67 and with reference to figure 4.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to display in Schatz both of the electronic diagrams and to highlight the differences between the two diagrams so the user will be able to quickly determine the merits of merging the two diagrams. The user needs this assistance because many diagrams are complex and the differences between the two or more diagrams may not be readily apparent without the aid of a computer highlighting the differences.

Claim 11:

Claim 11 depends upon claim 1

Schatz does teach replacing the difference item in said other electronic diagram with a copy of the difference item from a selected one of said two electronic diagrams.

Schatz does not teach *presenting said differences in said electronic diagrams on said display surface, said display surface split to show both of said electronic diagrams*; *highlighting a difference item in said selected one of said two electronic diagrams;*

highlighting a difference item in said other electronic diagram that corresponds to the matching highlighted difference in said selected one of said two electronic diagrams; and

replacing the highlighted difference item in said other electronic diagram with a copy of the highlighted difference item from said selected one of said two electronic diagrams.

Hsu teaches *highlighting the differences in said electronic diagrams for a user on a display surface of a display device, said display surface showing both of said diagrams* at column 9 line 5 to column 10 line 67 and with reference to figure 4.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to display in Schatz both of the electronic diagrams and to highlight the differences that will be subject to between the two diagrams so the user will be able to quickly determine the merits of merging the two diagrams and it would have been obvious to replace the highlighted difference in one diagram with the highlighted difference is the other diagram so the user will quickly know which items will be merged from one diagram into the other diagram. The user needs this assistance because many diagrams are complex and the differences between the two or more diagrams may not be readily apparent without the aid of a computer highlighting the differences and because the user would have difficulty in knowing what items have been merged from one diagram into the other diagram.

Claim 12:

Claim 12 depends upon claim 11. Schatz teaches replacing a data element in said highlighted (*above modification teaches highlighting*) difference item in said other electronic diagram, said data element being a child data element (*Schatz teaches tree structures see the discussion of claims 3, 4 and 12 above*) in said other electronic diagram, said data element being part of a tree structure, said tree structure having parent data elements with child data elements attached thereto (*see the discussion of claims 3, 4 and 12 above*).

Claim 29:

See the discussion of claims 25 and 8.

Claim 30:

See the discussion of claim 11.

Claim 31:

See the discussion of claim 12.

Claim 38:

See the discussion of claims 34 and 8.

Claim 39:

See the discussion of claim 30.

Claim 40:

See the discussion of claim 31.

Allowable Subject Matter

9. Claims 5-7 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

10. Claims 9 and 10 are allowed.

11. Claim 17, 19, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter.

Claims 5-7, 17, 19 and 22:

The prior art of record fails to teach or suggest *categorizing said differences between said two diagrams as functional differences and graphical differences,*

copying all of said functional differences from said selected one of said two diagrams, and

copying less than all of said graphical differences from said selected one of said two diagrams because the graphical representation of the diagram is very important to understanding the diagram and motivation to copy less than all of the graphical differences is not present in the prior art of record.

Claims 9 and 10:

The prior art of record fails to teach or suggest *determining a distance on said display surface from an endpoint of a line to an updated connection point for a block in said*

other electronic diagram, said updated connection point being the connection point of said line and said block following a merge operation;

comparing said distance to a pre-defined parameter, said pre-defined parameter being a distance value;

extending said displayed line to said updated connection point when said distance is less than said pre-defined parameter because Schatz at column 10 lines 28-47 distance is not discussed as being a parameter that controls the visual appearance of a line.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery A Brier whose telephone number is (571) 272-7656. The examiner can normally be reached on M-F from 7:00 to 3:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, can be reached at (571) 272-7664. The fax phone Number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeffery A. Brier
Primary Examiner
Art Unit 2672